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lines shall not be more than 10 percent of the safety relief valve setting.

- (d) Return bends and restrictive pipe fittings are prohibited. Vents and headers shall be so installed as to prevent stresses on safety relief valve mountings.
- (e) When vent discharge risers are installed, they shall be so located as to provide protection against physical damage and be fitted with loose raincaps.
- (f) No shut-off valve shall be fitted in the venting system between the safety relief valve and the vent outlets. Suitable provision shall be made for draining the venting system if liquid can collect therein.

[CGFR 65-50, 30 FR 17022, Dec. 30, 1965, as amended by CGFR 70-10, 35 FR 3712, Feb. 25, 1970; 35 FR 6431, Apr. 22, 1970]

§ 98.25-75 Ventilation.

- (a) All enclosed spaces containing cargo tanks fitted with bottom outlet connections shall be provided with mechanical ventilation of sufficient capacity to assure a change of air every 3 minutes. Where cargo tanks are fitted with top outlet connections, the enclosed spaces containing such tanks shall be fitted with efficient natural or mechanical ventilation.
- (b) Enclosed compartments in which machinery such as cargo pumps or vapor compressors are located shall be adequately ventilated.

$\S\,98.25\text{--}80$ Cargo hose.

- (a) Cargo hose fabricated of seamless steel pipe with swivel joints, wire braided armored rubber or other hose material acceptable to the Commandant, shall be fitted to the liquid or vapor lines during filling and discharging of the cargo tanks.
- (b) Hose subject to tank pressure shall be designed for a bursting pressure of not less than five times the maximum safety relief valve setting of the tank.
- (c) Hose subject to discharge pressure of pumps or vapor compressors shall be designed for a bursting pressure of not less than five times the pressure of setting of the pump or compressor relief valve.
- (d) Before being placed in service, each new cargo hose, with all necessary

fittings attached, shall be hydrostatically tested by the manufacturer to a pressure of not less than twice the maximum pressure to which it may be subjected in service. The hose shall be marked with the maximum pressure guaranteed by the manufacturer.

§ 98.25-85 Electrical bonding.

(a) Each cargo tank shall be electrically grounded to the hull. The cargo vessel shall be electrically connected to the shore piping prior to connecting the cargo hose. This electrical connection shall be maintained until after the cargo hose has been disconnected and any spillage has been removed.

[CGFR 65-50, 30 FR 17022, Dec. 30, 1965, as amended by CGFR 70-10, 35 FR 3712, Feb. 25, 1970]

§ 98.25-90 Special operating requirements.

- (a) Repairs involving welding or burning shall not be undertaken on the cargo tanks or piping while anhydrous ammonia in either the liquid or vapor state is present in the system.
- (b) During the time anhydrous ammonia is laden in the tanks the vessel shall be under constant surveillance.
- (c) Authorization from the Commandant (G-MSO) shall be obtained to transport lading other than anhydrous ammonia in the cargo tanks.
- (d) Sufficient hose stations shall be installed with adequate water supply so that if leakage of anhydrous ammonia occurs the vapors may be removed by use of a stream of water.
- (e)(1) At least two units of approved self-contained breathing apparatus, one stowed forward of the cargo tanks and one stowed aft of the cargo tanks, shall be carried on board the vessel at all times.
- (2) All approved self-contained breathing apparatus, masks and respiratory protective devices shall be of types suitable for starting and operating at the temperatures encountered, and shall be maintained in good operating condition.
- (3) Personnel involved in the filling or discharge operations shall be adequately trained in the use of the equipment.